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HERMANN EBBINGHAUS

THE sudden death, on February 26, at the age of fifty-nine years, of Dr. Hermann Ebbinghaus, professor of philosophy at Halle, is felt as a severe loss throughout the psychological world, for few psychologists were more international in their reputation and sympathies. Nowhere, perhaps, will the loss be keener felt than on this side of the water, where his work has long been held in high esteem, and where his great book, the ''Grundzüge der Psychologie,'' is by many regarded as the best general treatment of the subject. It is specially to be regretted that his untimely death should interrupt this work in its midst.

Hermann Ebbinghaus was born on January 24, 1850, son of a merchant of the town of Barmen. His preliminary education was obtained at the gymnasium of his native town, and at the age of seventeen he entered on university studies at Bonn, later migrating to Halle and to Berlin. His studies were interrupted by the Franco-Prussian war, at the outbreak of which he entered the German army. At its close he returned to Bonn, and continued his studies there for two years more, receiving the degree of doctor of philosophy in 1873. At the outset of his university career, his interests had lain in history and philology, but he was gradually led over into philosophy, and the subject of his doctor's dissertation was ''Hartmann's Philosophy of the Unconscious,'' a work which he discussed in severely critical fashion. Among his teachers of philosophy had been Erdmann, Trendelenburg, and J. B. Meyer.

In those very early years of the development of experimental psychology, it is not strange to find that one who was to take his place among its greatest representatives did not, in his student days, come into personal contact with any one who professed the subject. Yet we have evidence that Ebbinghaus already had advanced ideas regarding the proper scope of psychology—the evidence being contained in two of the ''theses'' which he undertook to defend in his doctor's examination. These were, that ''psychology, in the widest sense, belongs under philosophy in no more intimate way than natural philosophy belongs there''; and that ''existing psychology consists more of logical abstractions and verbal classifications than of knowledge of the real elements of mind.'' Ebbinghaus should indeed be counted among the pioneers of experimental psychology; he belongs to that second generation which followed close on Helmholtz and Fechner, and which included, in Germany, Müller and Stumpf as well as the older and earlier Wundt. It was apparently by Helmholtz and Fechner that he was most influenced; largely also by Hering and by the English associationists. During the years following the attainment of his doctorate —the years in which Wundt published the first edition of his ''Physiological Psychology,'' and established, at Leipzig, the first psychological laboratory—Ebbinghaus also, with characteristic independence, was bringing together in his mind the various lines of work which contributed to the establishment of an independent science of psychology on an empirical basis. In 1880, he became ''privat Dozent'' of philosophy in the University of Berlin, and offered courses in physiological and experimental psychology, as well as in the history of philosophy. Already, before this date, he had conceived and begun to work out his principal original contribution to the progress of empirical psychology. He had devised a method by which quantitative experiment could be extended, beyond the sphere of sense impressions and reaction times to which it had mainly been confined, to the memory, and by which so apparently inaccessible a thing as the degree of retention of matter which had once been learned but passed beyond recall could be measured. His demonstration that so central a process as memory could be studied by exact methods added greatly to the courage of the young science, and his work was the starting-point for a large and steadily increasing literature.

Appointed extraordinary professor of philosophy at Berlin in 1886, he remained in that position till 1894, when he became regular professor of philosophy at Breslau; there he remained till called in 1905 to a similar post in Halle, which position he held till his death. The one course which he constantly offered, at Berlin, at Breslau, and at Halle, was a seminar in experimental psychology. Besides this, he offered, at various times, courses in general psychology, in introduction to philosophy, in the history of philosophy, in the philosophy of Kant and of Schopenhauer, in logic and theory of knowledge, in esthetics, and in the history of pedagogy. His lectures on philosophical subjects are reported to have been highly acceptable, but he has probably made no original contributions to philosophy, his own field being distinctly psychology.

In 1890, in cooperation with Arthur König, he established the *Zeitschrift für Psychologie und Physiologie der Sinnesorgane,* the first psychological journal of wide scope to be published in Germany, though antedated in America by Stanley Hall's journal. The *Zeitschrift* had completed its fiftieth volume at the time of its editor's death, and had probably more fully represented the progress of psychology during these twenty years than any other one journal, though many have followed in its steps.

A bibliography of Ebbinghaus's work would not contain very numerous titles. He was by no means prone to rush into print. He presents his point of view in this matter in a certain passage, where he says that "the individual has to make innumerable studies for his own sake. He tests and rejects, tests once more and once more rejects. For certainly not every happy thought, bolstered up perhaps by a few rough-and-ready experiments, should be brought before the public. But sometimes the individual reaches a point where he is permanently clear and satisfied with his interpretation. Then the matter belongs to the scientific public for their further judgment." In accordance with these principles, we find that his first experiments on memory, completed in 1880, were held back and repeated entire over three years later, and not published till 1885.

A nearly complete bibliography of Ebbinghaus's work follows:

"Ueber die Hartmannsche Philosophie des Unbewussten." Inaug. Dissertation, Bonn, 1873. Pp. 67.

"Über das Gedächtnis. Untersuchungen zur experimentellen Psychologie." Leipzig, 1885. Pp. ix, 169.

"Die Gesetztmässigkeit des Helligkeitscontrastes." *Sitzungsberichte der K. pr. Akademie der Wissenschaften zu Berlin,* 1887, 995–1009. (A quantitative study of brightness contrast, leading to the formulation of two simple laws, with application to the consideration of Weber's law.)

"Über den Grund der Abweichungen von dem Weber'schen Gesetz." *Pflüger's Archiv für die gesamte Physiologie,* **45**: 113. 1889.

"Über negative Empfindungswerte." *Zeitschrift für Psychologie,* etc., **1**: 320–334; 463–485. 1890. (Here he follows up Delboeuf's conception of the measurement of sensation as in reality a measurement of sense-distances.)

"Theorie des Farbensehens." *Zeitschrift für Psychologie,* etc., **5**: 145–238. 1893. (A thorough discussion of the Helmholtz and Hering theories, with an attempt to add an explanation of the facts which are not readily accounted for by them.)

"Über erklärende und beschreibende Psychologie." *Zeitschrift für Psychologie,* etc., **9**: 161–205. 1896. (A justification of hypotheses, analysis, and causal explanation in psychology, in opposition to the criticisms of W. Dilthey.)

"Über eine neue Methode zur Prüfung geistiger Fähigkeiten und ihre Anwendung bei Schulkindern." *Zeitschrift für Psychologie,* etc., **13**: 401–459. 1897. (The "Combination method" of testing intelligence, and the application of this and other methods to the problem of school fatigue.)

"Die Psychologie jetzt und vor hundert Jahren." *C. R. IV. Congrès international de Psychologie* (Paris, 1900), Paris, 1901. Pp. 49–60.

"Ein neuer Fallapparat zur Controle des Chronoscops." *Zeitschrift für Psychologie,* etc., **30**: 292–305. 1902.

"Grundzüge der Psychologie." Band I., first half, 1897, completed 1902.

Second edition of the first volume, 1905. Pp. xvi, 732. Band II., 1. Lieferung, 1908. Pp. 96.

"Abriss der Psychologie." 1907. Translated into English by M. Meyer, 1908. Pp. 214.

The most important of these papers as new contributions to psychology are, no doubt, the study of memory, already mentioned, and the ''combination method'' of testing mental ability. This test has been widely used, and has probably greater claims to be regarded as a test of intelligence than any other single test that has been introduced.

Ebbinghaus, like James, whose work he regarded very highly, was one of the early biological psychologists. He insisted that the problems and methods of psychology were of the same general sort as those of natural science. Only, they were more closely allied to those of biology than to those of physics and chemistry, and the analogies of psychology with biology were much more sound and fruitful than the analogies with physics and chemistry. Such atomistic analyses of mental life as were put forth by the Mills, and such conceptions as those of Helmholtz in his theory of color vision and of Wundt in his theory of space perception, would, he says, have been impossible to any one who approached psychology from the side of biology. He supported the nativistic view of the perception of time and of two-dimensional space, and found their basis in sensation. Movement and change, likeness and difference, unity and multiplicity also inhere in sensation, and do not need, fundamentally, to be constructed by any process of association or mental activity.

All his work gives evidence of breadth of view and well-matured judgment. He possessed a good historical sense, and on several occasions has given illuminating sketches of the history of psychological progress. His clear and engaging style is enriched by a vein of humor and by a multitude of apt illustrations. Perhaps because the best years of his life were passed somewhat outside the main current of German university life, his personal disciples can not be counted in large numbers; they include A. Wreschner, L. W. Stern and O. Lipmann. It is through his writings that his influence has mostly been felt, and this influence seems destined to continue.

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